

Future Plans for JAS3 and Geant4

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JASSimApp

- JAS3 is based on “FreeHEP Application Framework”
 - Modular framework into which plugins are installed
 - Existing JAS3 functionality is provided by about 30 plugins
 - Plugins communicate with each other by service lookup
 - Easy to add/remove/replace plugins without breaking application
 - Want to exploit this functionality to build GUI for Geant4, aimed specifically at:
 - Prototype detectors
 - Beam tests
 - Medical applications
 - Any relatively simple simulation task

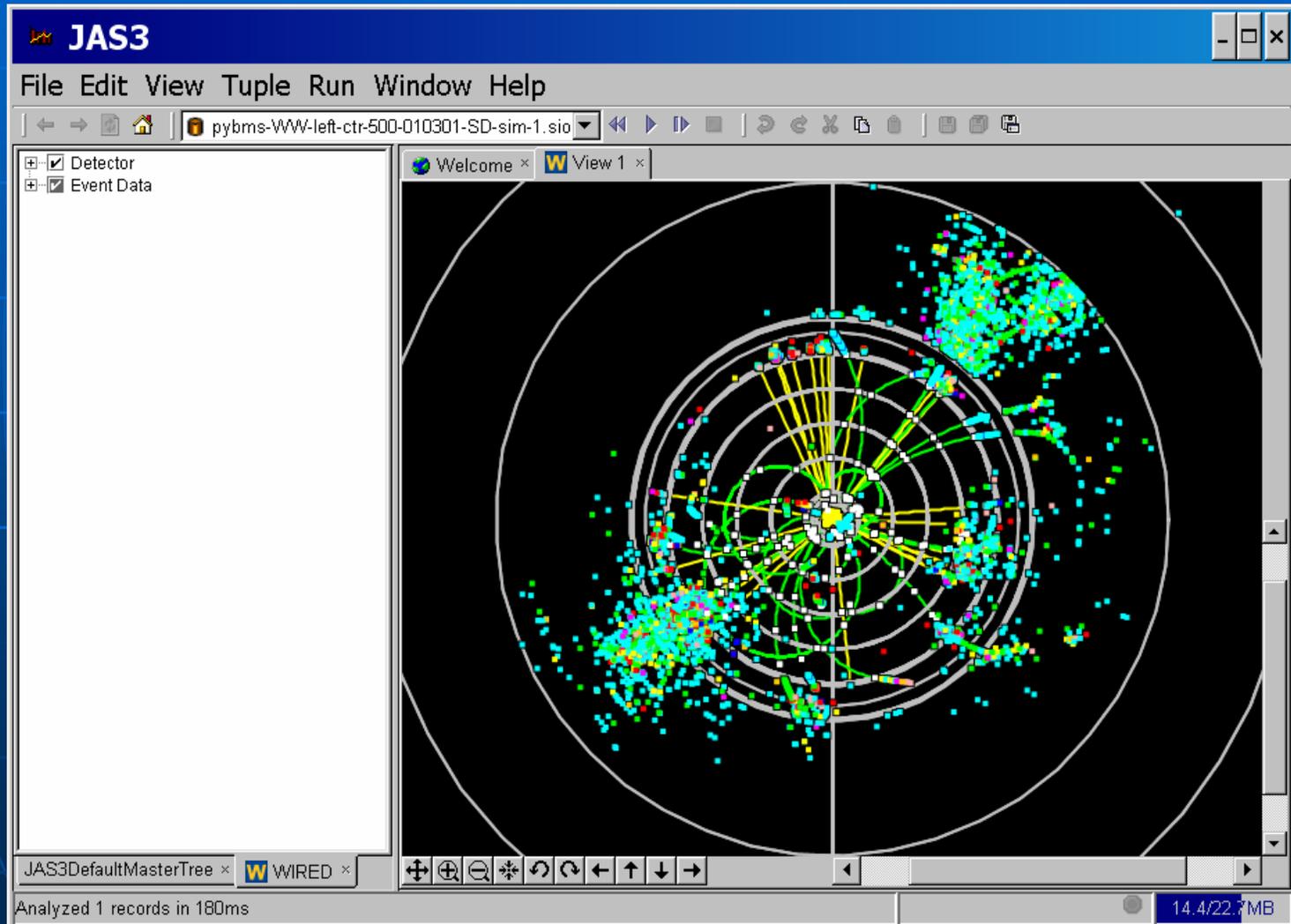
JASSimApp

- Modules:
 - Event Display (WIRED)
 - Command Line Interface (GAG)
 - Geometry/Material Definition (MOMO)
 - Analysis (AIDA)

JASSimApp

- Goals:
 - No (re)compilation of C++ code required
 - Support 3 modes of operation
 - Local
 - Remote (client-server)
 - Distributed (grid-enabled)
- Most components already exist
 - Working on making them all work seamlessly together

JAS3/WiredPlugin



JAS3/MomoPlugin

Enter Physics ClassName Enter defaultCutValue mm

Delete a Row

Particle	Process	AtRest	AlongStep
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EM Particles | EM Processes

Append a particle or particles group				Insert a particle or particles group			
all bosons	γ	geantino	chargedgeantino				
all leptons	e-	μ^-	τ^-	anti- ν_e	anti- ν_μ	anti- ν_τ	
	e+	μ^+	τ^+	ν_e	ν_μ	ν_τ	
all mesons	π^+	π^-	π^0	η	η'		
	K+	K-	K0	K0S	K0L	anti-K0	
	D+	D-	D0	anti-D0	Ds+	Ds-	
	B+	B-	B0	Bs0	anti-B0	anti-Bs0	Ψ
all baryons	p	n	anti-p	anti-n			
	Δ	Σ^+	Σ^0	Σ^-	Ξ^0	Ξ^-	Ω^-
	anti- Λ	anti- Σ^+	anti- Σ^0	anti- Σ^-	anti- Ξ^0	anti- Ξ^-	anti- Ω^-
	Δ_c^+	Σ_c^{++}	Σ_c^+	Σ_c^0	Ξ_c^+	Ξ_c^0	Ω_c^0
	anti- Δ_c^+	anti- Σ_c^{++}	anti- Σ_c^+	anti- Σ_c^0	anti- Ξ_c^+	anti- Ξ_c^0	anti- Ω_c^0

5.477.80MB

JAS3/GAGPlugin

The screenshot displays the JAS3 software interface. The main window is titled "JAS3" and contains a menu bar (File, Edit, View, Ambient, Tuple, Run, LCD, L_CIO, Window, Geant4, Momo, Help) and a toolbar. The left sidebar shows a tree view of the "JavaGAGServer" project, with the "run" folder expanded to show various command buttons like "initialize", "beamOn", "verbose", etc. The "beamOn" button is currently selected. The main panel shows the "AmbientPlugin Help Page" for the "beamOn" command. The help text explains the command's function: "Start a Run." and provides details on arguments: "numberOfEvent" (default 1), "macroFile" (default ***NULL***), and "nSelect" (default -1). Below the text are three input fields with their respective values and units. At the bottom of the help panel are four buttons: "Default", "Current", "Clear", and "Execute". The "Execute" button is highlighted in green. Below the help panel is a terminal window showing the connection status: "Java GAG Server connected: "/JavaG4Server:noric03:1099/Oct_1_2003_4:31:27_PM/JavaGAGServer" Idle_2>". The status bar at the bottom indicates the current path and memory usage: "GAGServer: path=/JavaG4Server:noric03:1099/Oct_1_2003_4:31:27_PM/JavaGAGServer/run/beamOn 4.30827MB".

JavaGAGServer

- control
- units
- geometry
- tracking
- event
- run
 - initialize
 - beamOn
 - verbose
 - dumpRegion
 - dumpCouples
 - optimizeGeometry
 - breakAtBeginOfEvent
 - breakAtEndOfEvent
 - abort
 - abortCurrentEvent
 - geometryModified
 - cutoffModified
 - randomNumberStatusDire
 - storeRandomNumberStatu
 - restoreRandomNumberSta
 - setCut
 - setCutForRegion
 - particle

AmbientPlugin Help Page × GAG noric03:1099/Oct_1_2003_4:31:27_PM ×

#Command History List

/run/beamOn
Start a Run.
If G4 kernel is not initialized, it will be initialized.
Default number of events to be processed is 1.
The second and third arguments can be used for executing a macro file at the end of each event.
If the second argument, i.e. name of the macro file, is given but the third argument is not, the macro file will be executed for all of the event.
If the third argument (nSelect) is given, the macro file will be executed only for the first nSelect events.

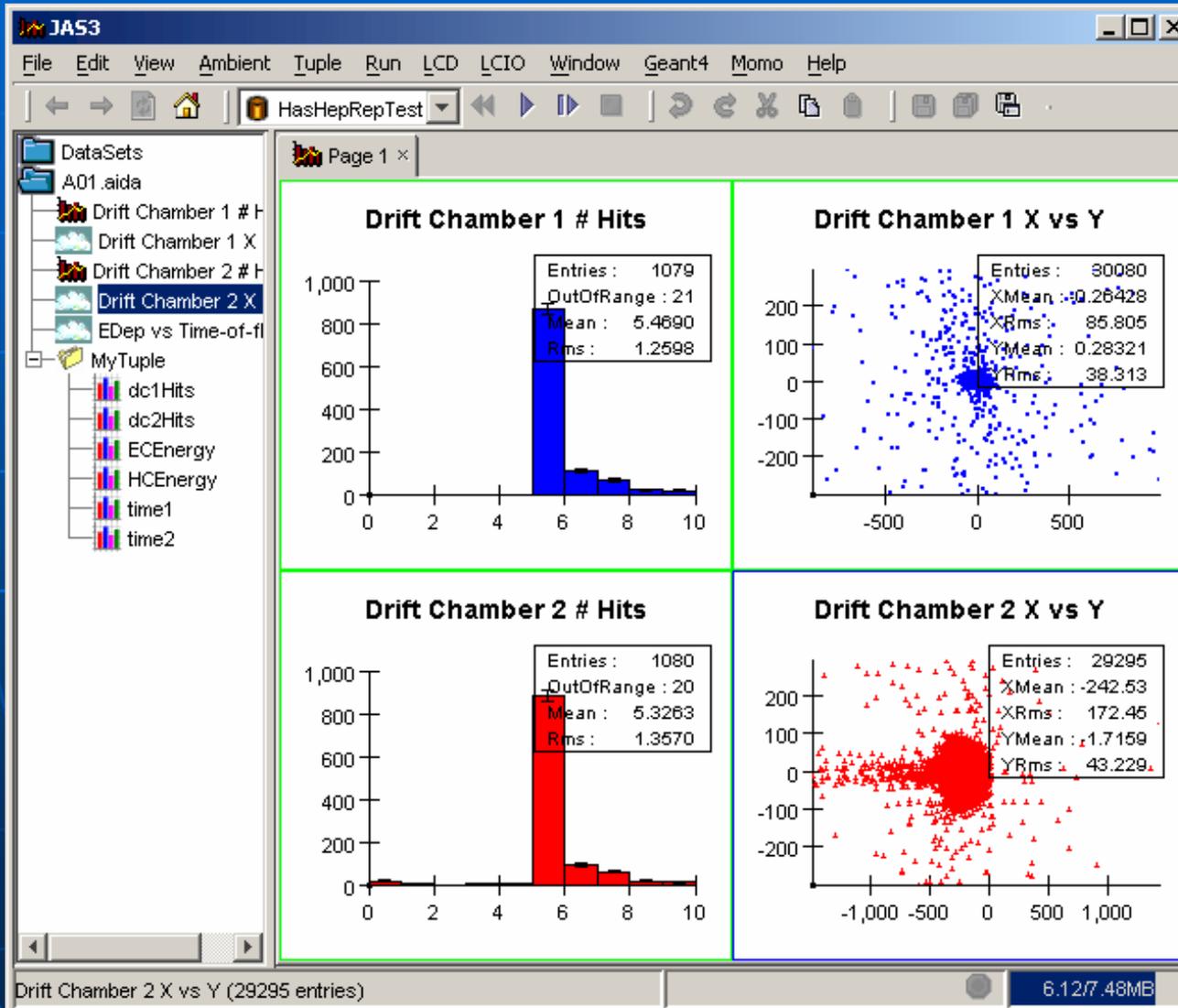
numberOfEvent 1 (i)
macroFile ***NULL*** (s)
nSelect -1 (i)

Default Current Clear Execute

Java GAG Server connected: "/JavaG4Server:noric03:1099/Oct_1_2003_4:31:27_PM/JavaGAGServer"
Idle_2>

GAGServer: path=/JavaG4Server:noric03:1099/Oct_1_2003_4:31:27_PM/JavaGAGServer/run/beamOn 4.30827MB

JAS3/AIDAPlugin



Conclusion

- JASSimApp being actively worked on now by
 - Hajime Yoshida and team
 - Victor Serbo
- Check back in 6 months for update